CLAIMS

What is claimed is:

1. A method for providing a display of an electronic mail collection, comprising:

forming at least two types of message abbreviations from the electronic mail collection;

placing the at least two types of message abbreviations in a collection viewing cascade;

receiving a selected level for viewing; and

displaying the collection viewing cascade at the selected level.

2. The method of claim 1, wherein selected level for viewing is made by a user.

3. The method of claim 1, wherein the display of an electronic mail is multi-level.

4. The method of claim 1, wherein the display is one of a monitor and paper.

5. The method of claim 1, wherein forming comprises:

decomposing each message of the collection into a tree structure such that each child node represents at least one of a sequence of first-level material from its parent and an excerpt of another message; and

decomposing sequences of first-level material into block types

6. The method of claim 1, wherein forming comprises:

determining blocks of like type, wherein the blocks are line-oriented text;

abbreviating within blocks of like type by including only a predetermined number of lines; and

indicating where material has been removed by providing elision indicators.

7. The method of claim 1, wherein forming comprises:

concatenating at least one sequence of prose paragraphs;

submitting the at least one concatenated sequence to a summarizer that identifies the most salient sentences in the sequence; and

determining where to insert elision indicators by aligning the identified sentences with the original sentences.

8. The method of claim 1, wherein the user selects a viewing level and wherein displaying comprises displaying the thread structure with substantive fragments of each message embedded within the structure.

9. The method of claim 1, wherein the user selects a viewing level and wherein displaying comprises displaying the thread structure with a compressed text representation of each message embedded within the structure.

10. The method of claim 1, wherein the user selects a viewing level and wherein displaying comprises displaying the thread structure with an email-adapted summary for each message embedded within the structure.

11. The method of claim 1, further comprising:

receiving a user selection of a viewing level;

displaying a first frame that displays an outline view of a thread in the collection;

displaying a view of the thread with embedded compressed-text message forms in a second frame;

receiving a user request, in the first frame, to scroll the display in the second frame;

receiving a user request to display the predecessor of the message in the second frame; and

displaying the predecessor in the first frame.

12. A computer controlled output system for providing a display of an email collection comprising:

a medium for presenting the email collection; and

a processor adapted to: (a) form two types of message abbreviations from the electronic mail collection; (b) place the two types of message abbreviations in a collection viewing cascade; and (c) respond to a selection of a viewing level for controlling the display at the selected viewing level.

13. The system of claim 12, wherein the processor is adapted to:

decompose each message of the collection into a tree structure such that each child node represents at least one of a sequence of first-level material from its parent and an excerpt of another message; and

decompose sequences of first-level material into block types

14. The system of claim 12, wherein the processor is adapted to:

concatenate at least one sequence of prose paragraphs;

identify the most salient sentences in the at least one sequence;

remove the non-identified sentences; and

insert elision indicators by aligning the identified sentences with the original sentences.

15. The system of claim 12, wherein the processor is responsive to a user selection of a viewing level to control the presentation of the thread structure wherein the substantive fragments of each message are embedded within the structure.

16. The system of claim 12, wherein the processor is responsive to a user selection of a viewing level to control the presentation of the thread structure with a compressed text representation of each message embedded within the structure.

17. The system of claim 12, wherein the processor is responsive to a user selection of a viewing level to display the thread structure with an email-adapted summary for each message embedded within the structure.

18. The system of claim 12, wherein the processor is responsive to a user selection of a viewing level to:

display a first frame that displays an outline view of a thread in the collection; and

display a view of the thread with embedded compressed-text message forms in a second frame, wherein the processor is further adapted to display a message within the thread in the second frame in response to a user selection of the thread in the first frame and wherein the processor is further responsive to a user request, in the first frame, to control the display to scroll the second frame.

19. An information storage media comprising information that provides multi-level displays of email collections, the information comprising:

information that forms two types of message abbreviations from the electronic mail collection;

information that places the two types of message abbreviations in a collection viewing cascade; and

information that is responsive to a user selection of a viewing level for controlling the display to display the collection viewing cascade at the user selected viewing level.

20. The information storage media of claim 19, further comprising:

information that decomposes each message of the collection into a tree structure such that each child node represents one of a sequence of first-level material from its parent and an excerpt of another message; and

information that decomposes sequences of first-level material into block types

21. The information storage media of claim 19, further comprising:

information that determines blocks of like type, wherein the blocks are line-oriented text;

information that abbreviates within blocks of like type by including only a predetermined number of lines; and

information that indicates where material has been removed by providing elision indicators.

22. The information storage media of claim 19, further comprising:

information that concatenates at least one sequence of prose paragraphs;

information that identifies the most salient sentences in the at least one sequence; and

information that inserts elision indicators by aligning the identified sentences with the original sentences.

23. The information storage media of claim 19, further comprising information that is responsive to a user selection of a viewing level to display the thread structure with substantive fragments of each message embedded within the structure.

24. The information storage media of claim 19, further comprising information that is responsive to a user selection of a viewing level to display the thread structure with a compressed text representation of each message embedded within the structure.

25. The information storage media of claim 19, further comprising information that is responsive to a user selection of a viewing level to display the thread structure with an email-adapted summary for each message embedded within the structure.

26. The information storage media of claim 19, further comprising:

information that receives a user selection of a viewing level;

information that displays a first frame that displays an outline view of a thread in the collection;

information that displays a view of the thread with embedded compressed-text message forms in a second frame;

information that scrolls the display in the second frame in response to a user request received in the first frame;

information that receives a user request to display the predecessor of the message in the second frame; and

information that displays the predecessor in the first frame.

27. A multi-level display of an electronic mail collection, the display comprising a collection viewing cascade at a user selected level, the collection viewing cascade including at least two types of message abbreviations that were formed from the electronic mail collection.

28. The display of claim 27, wherein the at least two types of message abbreviations include:

at least one abbreviation of blocks of line-oriented text;

a predetermined number of lines; and

at least one elision indicator that indicates where material has been removed.

29. The display of claim 27, wherein the at least two types of message abbreviations is based upon the most salient material within a concatenated sequence of prose paragraphs within at least one message in the collection.

30. The display of claim 27, wherein the user selected level is a second viewing level and wherein the abbreviations include initial substantive fragments of each message.

31. The display of claim 27, wherein the user selected level is a third viewing level and wherein the abbreviations include a compressed text form of each message.

32. The display of claim 27, wherein the user selected level is a fourth viewing level and wherein the abbreviations include an email-adapted summary of each message.

33. The display of claim 27, wherein the user selected level is a fifth viewing level and wherein the abbreviations include a first frame having an outline view of a thread in the collection and a second frame having a display of a message selected by a user in the first frame.

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